DOCUMENT RESUME

ED 291 922 CE 049 765

TITLE The Bottom Line: Basic Skills in the Workplace.
INSTITUTION Department of Education, Washington, DC.; Department of Labor, Washington, D.C.
PUB DATE 88
NOTE 57p.; Introduction by William J. Bennett.
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Adult Basic Education; *Adult Literacy; *Basic Skills; Corporate Education; Guides; Illiteracy; *Inplant Programs; *Literacy Education; Program Development; *Program Implementation

ABSTRACT

This booklet provides guidelines for setting up workplace programs to strengthen employee basic skills. It is intended to help employers who are contemplating the establishment of basic skills training programs and those with programs already in place who seek to improve their current designs. Part I addresses the basic skills problem in the workplace, the need to meet workplace literacy demands, and how to build a literate work force. Part II focuses on how to identify workplace literacy problems. Guidelines are provided on how to conduct a literacy audit. Part III presents the methodology for solving workplace literacy problems through implementation of a training program. It covers these steps: designing the training program, setting goals, assessing available resources, recruiting trainees, working with partners, building the curriculum, and evaluating the program. Part IV contains a listing of references and suggested readings, as well as brief descriptions and addresses for additional sources of information. (YLB)

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THE BOTTOM LINE:

BASIC SKILLS IN THE WORKPLACE

CE049765

A Joint Publication of the

U.S. Department of Labor

U.S. Department of Education

THE BOTTOM LINE:

BASIC SKILLS IN THE WORKPLACE

A joint publication of the

United States
Department of Education
William J. Bennett, Secretary

United States
Department of Labor
Ann McLaughlin, Secretary

1988

PREFACE

Ann McLaughlin
Secretary of Labor

We are rapidly approaching a new century and a vastly different labor market from the one we know. Major changes are already taking place. The number of new jobs is growing, and most experts agree that the skill levels of many of these jobs will be rising. Employers will place a premium on higher levels of reading, computation, communication, and reasoning skills. Such skills will be vital to our domestic economic growth, as well as our ability to compete abroad.

The rapid turnover and change of industries and firms will often require workers to change jobs five or six times, transforming the traditional work culture of Americans. Workers will need to be more flexible—open to retraining and job mobility. Workers with poor basic skills will be ill-equipped for any change. A growing share of our new workers will come from groups where human resource investments have been historically deficient—minorities, women, and immigrants. Employers will increasingly have to reach into the ranks of less advantaged to obtain their entry-level work force, frequently those with deficient basic skills.

To improve the quality of the American workforce, we need to work together to find new and better ways of teaching literacy and basic skills to workers who lack them. This publication is an effort to share some ideas and some exciting program designs that can help improve the basic skills of American workers. It is intended to help employers and others who are contemplating the establishment of basic skills training programs and those with programs already in place who seek to improve their current designs.

The job market of the year 2000 will pose unique challenges in matching workers with jobs. Our goal is to utilize the contributions of all our citizens; we must rapidly expand the nation's inventory of human skills. A partnership approach—one that involves business and industry, labor, schools, government, community organizations, and workers themselves—is essential if we are to be successful. Together, we can sharpen the skills of American workers and the quality of the products and services they provide.

INTRODUCTION

William J. Bennett
Secretary of Education

The education of our children in the nation's elementary and secondary schools and in our institutions of higher learning has never assumed a higher priority than it has today. This school year, the American people are investing over $300 billion in education at all levels.

The good news for literacy is the trend of improved performance on national reading assessments, improvements that are especially significant for black and Hispanic youth aged 9, 13, and 17. Yet we know the bad news all too well: from colleges offering more remedial instruction to employers telling us that too many graduates of our schools come to them unprepared. Clearly, this is *not* a time for complacency when our most recent literacy assessment of young adults tells us that:

- Only 27 percent could interpret a lengthy feature story in a newspaper.
- 28 percent were unable to write a letter to state that an error had been made in billing.
- Only 25 percent of black young adults and 41 percent of Hispanics—compared to 61 percent of whites—could be classified as "adept" readers; that is, able to find, understand, summarize, and explain relatively complicated information.

This is a time for concerted effort to address the broad range of the literacy problem that confronts us as a nation. Corporations and businesses have a stake in the improvement of our schools, and many communities are benefiting from partnerships of the "adopt-a-school" model. Private benefactors like Eugene Lang in New York City are assuring students of support for a college education if they graduate from high school. Volunteers are serving as tutors in libraries, schools, and community centers to help students with homework, particularly in reading and math.

All of these efforts and more hold promise for our future. But we must also attend to those now in the workforce who are facing challenges that call on skills that may be lacking, rusty, or outmoded by changes in technology.

The suggestions in this booklet provide guidelines for setting up workplace programs. Such programs make sense for business when it is clear that strengthening employee basic skills can benefit a company's overall performance. And programs supported by business can learn from successful workplace literacy approaches that emphasize the connection between what is learned and the kind of tasks adults are routinely called on to perform.

The more I have come to know about the problems of weak basic skills, the more I believe that we must move on all fronts—in our schools and communities, in the workplace, in our families—if we are to become a more literate nation by the end of the century. And we must do more than establish the right programs; we must establish literacy as a value and weave it into the fabric of our national life.

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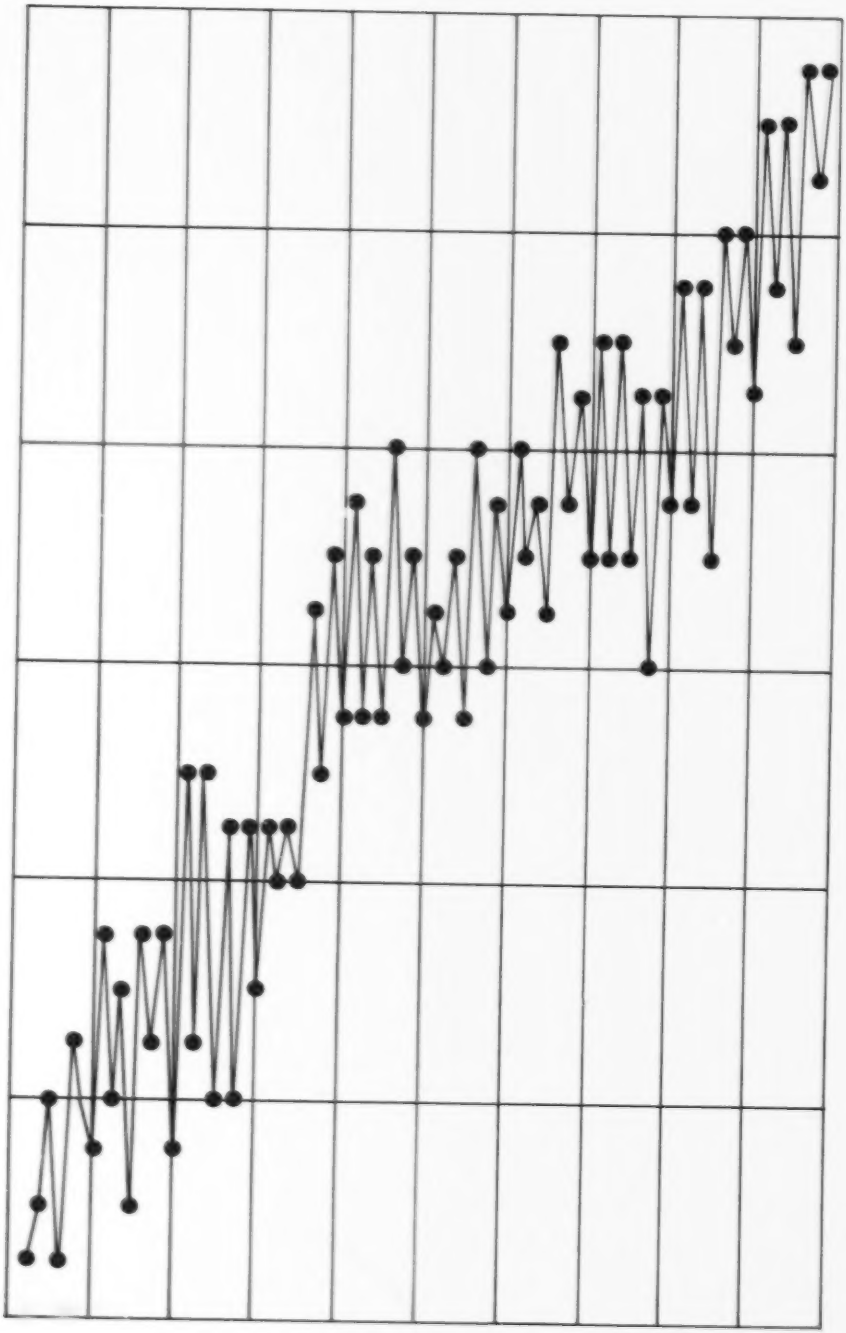
Part I

Is There a Basic Skills Problem in the Workplace?



PART I.
IS THERE A BASIC SKILLS PROBLEM IN THE WORKPLACE?

The Need for Improved Basic Skills

The concerns of the business community for a skilled workforce have never been greater than in the 1980's. In survey after survey, employers have identified the need for workers with stronger basic skills to accomplish tasks in the workplace of today and to adapt to the workplace of tomorrow. A Department of Education survey of 101 executives from small and medium-sized businesses found the need for more highly skilled employees cited as an important motivation for corporate philanthropy. "Poor writing is endemic. Employees can use calculators but don't understand mathematical concepts," said one executive. The definition of basic skills typically used by employers includes not only the ability to read and write but also computation, communication, and problem-solving skills. Business leaders also believe that schools should emphasize the importance of good habits such as self-discipline, reliability, perseverance, accepting responsibility, and respect for the rights of others.

The focus on the workplace as a place for continued learning has become even clearer as the United States has moved from a manufacturing to a service economy. About 90 percent of new jobs through 1995 will be in services, compared with just 8 percent in manufacturing. New technology has changed the nature of work—created new jobs and altered others—and, in many cases, has revealed basic skills problems among experienced, older workers where none were known to exist. The concern for America's competitiveness has led to the realization that the development of basic skills suitable for the workplace often extends beyond an employee's school experience. For instance, the need for teamwork calls on more highly developed listening skills and the understanding of specific, job-related vocabulary.

At the policy level, national and state officials are calling for stricter accountability and higher standards for the educational system, including the use of competency testing and higher requirements for high school graduation. In addition, federal and state funding is increasing for adult education, job training and literacy efforts. And with more private sector involvement in programs has come greater demand for measurable results.

A recent analysis of trends expected to affect the workplace of the future underscores the importance of private sector and public policy concern for employees' basic skills. The Hudson Institute's *WORKFORCE 2000* report projects that over the next 15 years, the United States will face a growing mismatch between job skill requirements and the available pool of workers. The *WORKFORCE 2000* report confirms the belief of those involved in job-related education and training that the jobs of the future will require more sophisticated skills than today's jobs.

Specifically:

- The majority of new jobs will require some postsecondary education for the first time in history.
- Only 27 percent of all new jobs will fall into low skill categories, compared to 40 percent of jobs today.
- Jobs that are in the middle of the skill distribution today will be the least skilled occupations of the future.

The Changing Workforce

Coupled with the increasing skill levels that will be required in new jobs over the next 15 years is the changing demographic makeup of the workforce. The Hudson Institute analysis projects that:

- The decline in population growth will mean an older workforce, with the average age of workers increasing from 36 to 39 by the year 2000.
- The number of young workers will decline both relatively and absolutely, with workers aged 16–34 accounting for half the workforce in 1985 but declining to less than 40 percent by the year 2000.
- 80 percent of new entrants into the workforce will be women, minorities, and immigrants.

Comparing new labor market entrants to the current workforce reveals some striking differences:

	Labor Force 1985	Net New Workers 1985–2000
Total	**115,461,000**	**25,000,000**
Native White Men	47%	15%
Native White Women	36%	42%
Native Non-white Men	5%	7%
Native Non-white Women	5%	13%
Immigrant Men	4%	13%
Immigrant Women	3%	9%

SOURCE: Hudson Institute.

These changes mean that:

- An older, less adaptable workforce will face a job market that requires increasingly flexible skills, with many workers changing jobs five or six times during their worklives.
- Traditionally less skilled groups and underutilized population groups (women, minorities, and immigrants) will be needed to fill available jobs.
- As a consequence of smaller growth in the labor force and a diminishing pool of qualified workers, employers may face serious skill shortages not experienced since World War II.

Meeting Workplace Literacy Demands

Trends projected by the Hudson Institute, particularly those related to entry-level workers, reinforce business leaders' call for improved remedial and drop-out prevention programs targeted to population groups most "at risk." But the emphasis on school improvement alone will not be an adequate response between now and the year 2000. It will not answer the needs of those young people who do drop out or those now of workforce age who will comprise 75 percent of the available pool for the next 15 years. So, even assuming the mastery of basic skills by all high school graduates and an increasing percentage of graduates, fixing the schools will not address the basic skills problems of the current and near-term workforce.

Moreover, workplace research indicates that the kinds of reading, writing, and analytical tasks workers perform routinely are different from those students are taught in schools or in general adult literacy programs. Typically, students read to learn information that needs to be remembered for later use. Workers' literacy tasks are oriented to satisfying more immediate and specific goals: "reading to do" and "reading to assess" characterize job-related literacy practices. And, since the application of basic skills on the job is embedded in real job tasks, education and training programs are moving more toward using the *functional contexts* of adult workers to teach these skills as opposed to using a more school-based approach.

Such programs also hold out the promise of helping employees develop their analytical reasoning abilities, enabling them to more readily transfer their experience in one job to another. A recent literacy assessment of America's young adult population suggests the need to concentrate on higher order thinking skills in training and education. The basic skills of today and tomorrow include the ability to process information. Research has found that the most successful workers are those who can process and organize information, monitor their own understanding, and who can explain the purpose of the reading and writing for the accomplishment of a task.

A good example of an effective functional context approach is the experience of the Chicago Private Industry Council (PIC) working with area businesses to address a shortage of word processor operators. Using a private consulting firm, employers and the PIC established a functional learning environment which simulated that of a business, with the same kind of equipment that students would use on the job. Trainees were screened using literacy exercises developed from actual job materials. Those reading two grade levels below the level of difficulty of business correspondence were screened out because trainees had to achieve that level (10th grade and above) in 14 to 20 weeks. Students were paid to attend 40 hours per week.

The training program integrated language (reading comprehension) and machine skills (typing and editing) and simulated actual job demands. The time spent on job-specific tasks increased over the training period. "Time on task" ranged from 80 percent to 90 percent and the students were kept informed of their progress through individual conferences, displays of average class performance, and anonymous individual trainee performance. As a result of this training, the average time needed to meet the pre-set standards was 20 weeks. Trainees improved their ability to read business material by an average of one grade level and many improved by considerably more. Within 3 months of their completing the program, 70 percent of the trainees were employed.

Building a Literate Workforce

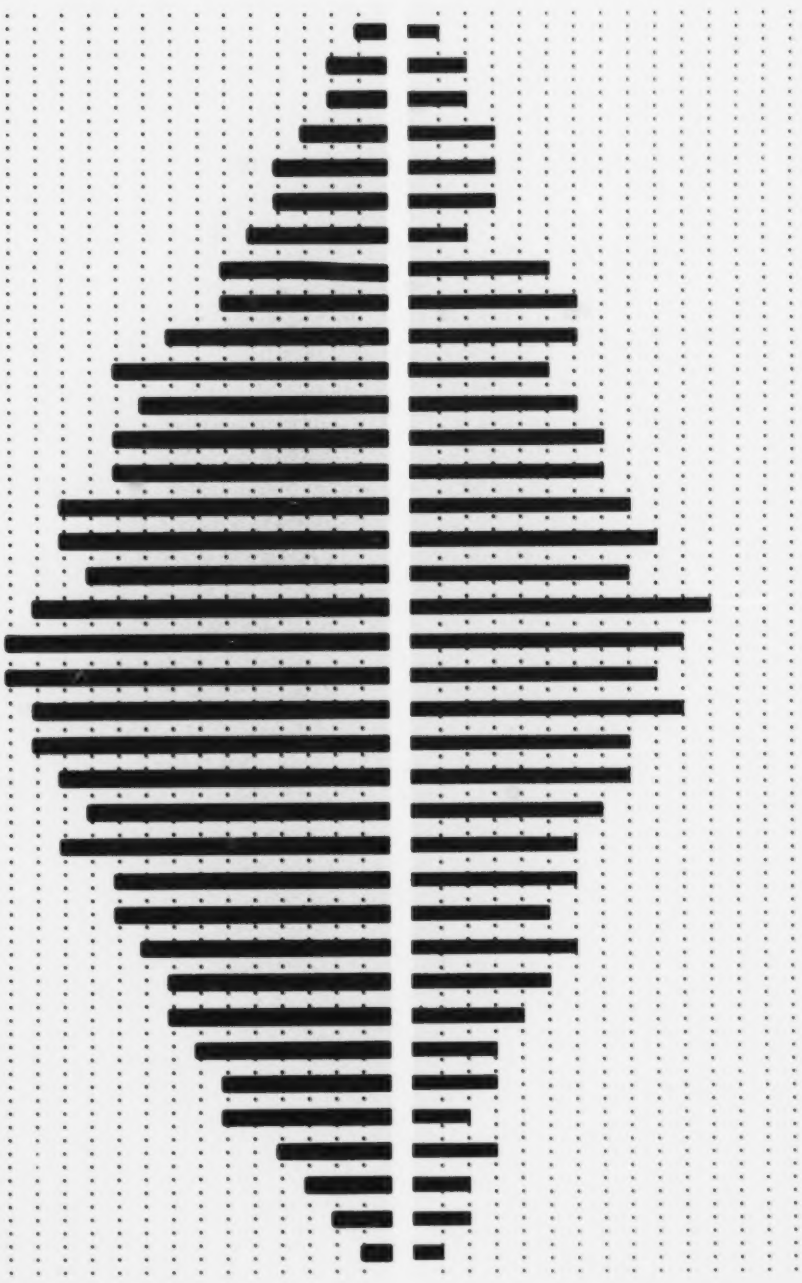
A functional context approach to basic skills programs represents one effective way to address the needs of adults in the workplace. Its limitation is that it does not necessarily equip adults to read general literacy materials—books, newspapers, and magazines—though elements of such broader uses for literacy can be incorporated in workplace programs. Participation in American society requires the acquisition of more general background, world knowledge, and a richer vocabulary that formal education and independent reading can provide. One sign of the difference between school-based literacy and that of the workplace is that tests of general reading ability for employment have been found unsuitable by the courts as literacy screening devices unless they reflect actual job reading demands (*Griggs* v. *Duke Power*).

Employers are attempting to help students and schools understand what they mean by basic skills in a number of ways. By forming partnerships with schools and sometimes working directly with students, businesses are making educators more aware of the kinds of tasks their entry-level employees must perform. Donating computers to schools that have limited resources sends a message of the important role of technology in the information age. And by guaranteeing job opportunities to students who keep high grades and who attend on a regular basis, local businesses are encouraging students to stay in school and learn.

To meet the demands of the workplace and the workforce of the future, schools and employers are working together to ensure that their communities are competitors in economic development. Improving basic skills in the workplace is yet another way that the private sector can ensure that the United States remains competitive in the world economy. The bottom line for the public and the private sectors is the best use of the nation's human resources.

PART II

IDENTIFYING WORKPLACE LITERACY PROBLEMS



PART II.
IDENTIFYING WORKPLACE LITERACY PROBLEMS

Spotting the Symptoms

"Jack Duggan is a 52-year old factory foreman and family man. His son Rusty is an excellent student who also plays on the hockey team Jack coaches. His daughter Monica, who is divorced, is dating a Harvard graduate who works at a high tech company. Her five-year-old daughter Harley is the apple of her grandfather's eye.

Only Jack's wife Margaret knows the dark secret of his seemingly happy life: he cannot read and write. Relying on tricks, evasions, and special codes he has devised over the years, Jack has managed to hide his handicap from his family, friends, and co-workers.

The plant where Jack works is moving to the age of technology and installing robots on the assembly line. Although the other men are being laid off, the managers want to promote Jack to the position of production foreman. All he has to do is learn to use a computer. With Margaret's help, he tries to decipher the computer user manuals. He cannot bluff it, however, when he is asked to type commands into the machine. Jack gives up the promotion and subsequently is fired."

"Bluffing It"
The ABC Television Network
A Viewer's Guide by the
Cultural Information Service

Item: In a large urban bank, managers discovered that a major reason for low productivity among the secretarial and clerical staff was the fact that 70 percent of dictated correspondence had to be redone at least once because of spelling and grammatical errors.

Item: In a major manufacturing company, one employee who didn't know how to read a ruler mismeasured yards of steel sheet wasting almost $700 worth of material in one morning. This same company had just invested heavily in equipment to regulate inventories and production schedules. Unfortunately, the workers were unable to enter numbers accurately, which literally destroyed inventory records and resulted in production orders for the wrong products. Correcting the errors cost the company millions of dollars and wiped out any savings projected as a result of the new automation.

Item: In its first major recruitment effort in more than a decade, the New York Telephone Company met with results that surprised few labor experts: 84 percent of applicants from New York City failed the entry-level examinations. From January to July 1987, only 3,619 of 22,880 applicants passed the examinations intended to test skills including vocabulary, number relationships, and problem solving for jobs ranging from telephone operator to service representative.

According to the Center for Public Resources Survey of Basic Skills in the U.S. Workforce (1982), companies had begun to spot the symptoms of basic skills problems in the workforce. Among the companies participating in the survey:

- 30 percent reported secretaries having difficulty reading at the level required by the job.
- 50 percent reported managers and supervisors unable to write paragraphs free of grammatical errors.
- 50 percent reported skilled and semi-skilled employees, including bookkeepers, unable to use decimals and fractions in math problems.
- 65 percent reported that basic skills deficiencies limit the job advancement of their high school graduate employees.
- 73 percent reported that such deficiencies inhibit the advancement of non-graduates.

Companies that responded also told stories of workers killed because of their inability to read warning signs, workers making costly mistakes because they couldn't understand correspondence, and workers losing time on the job because

they had to be "physically" instructed in how to use machinery due to their inability to read instruction manuals.

In the workplace, employees use reading, writing, computation, and other communication skills to accomplish specific job tasks, find solutions to problems, and make judgments about which reading materials are most useful for both those activities. Workers' basic skills may be adequate for satisfactory job performance until a change in the tasks, problems, and reading materials that make up their jobs or a change of jobs takes place; basic skills deficiencies are often successfully hidden until such a change takes place. Once the symptoms of a basic skills problem appear, the employer should move to pinpoint the source.

Pinpointing the Source

All occupations have specific job requirements. The Department of Labor's decennial publication, the *Dictionary of Occupational Titles*, provides descriptions of tasks performed in each job category, as well as the qualifications required of their occupants. These definitions make it abundantly clear that there are major differences in the skills and knowledge bases of jobs, even within the same industry and job level. People have to acquire the specific skills, knowledge, and vocabularies that apply to their workplaces and jobs.

A clerk in the army, an executive in a bank, a nurse in a hospital, a city policeman, and a salesperson in a telecommunications company must all be able to read, write, reason, and calculate. Each must have command of the language and knowledge bases that are specific to their job tasks. In the absence of these skills, they would be functionally illiterate for the jobs they hold.

A "literacy audit" performed by an outside agency, consultant, or a trained human resource development staff member is one good way of determining job-specific basic skills requirements and whether the workforce is meeting them. It is an investigation that leads to definitions of jobs in terms of their basic skills requirements and then to an assessment of the workforce's proficiency in those skills. This procedure is not inexpensive; however, it will yield a detailed picture of job-specific basic skills requirements and should result in training that doesn't waste time or money in non-relevant areas. The tools of a literacy audit are observation, collection and analysis of materials, interviews, and customized tests.

HOW TO PERFORM A LITERACY AUDIT

1. Observe employee(s) to determine the basic skills they must use in order to perform their jobs effectively.

- Watch the employee(s) throughout a workday to be sure all tasks are observed. Continue this observation over a period of time if tasks change periodically rather than daily.
- Record each time the worker reads, writes, or does an arithmetic calculation.
- Note the setting in which these basic skills activities take place.
- Note the materials used by the employee to perform the tasks involving basic skills activities.
- Determine the purpose of those tasks.
- Be aware of whether the tasks are performed individually or in groups.

2. Collect all materials that are written and read on the job to determine the degree of skill proficiency an employee must have to do the job well.

- Include memoranda, telephone messages, manuals, bills of sale, and forms such as inventory lists, balance sheets, and requisition slips.
- Examine the materials to determine reading levels, necessary vocabulary, and style.
- Analyze the content of these materials to determine their function.

3. Interview employees and their supervisors to determine their perception of the basic skills needed to do their jobs.

- Note the skills that the top-performing employees say are most important. Then ask them which skills they use most and how they use them.
- Ask the supervisors which skills are needed for job performance, identifying those deemed critical.

- Examine discrepancies, if they exist, between the employees' and the supervisors' perceptions of skills needed. One particularly good technique suggested by Mikulecky (1987) is to ask both supervisors and top-performing employees how they would break in a new employee, step by step. Questions such as "How do you decide what to do first? How do you decide what to do next?" clarify the mental processes underlying good job performance and present a fuller picture than a simple listing of tasks.

4. Determine whether the employees have the basic skills needed to do their jobs well.

- Combine the information gathered from observing the employees, collecting the materials they use, and the interviews. Then, write up a description of each of the audited jobs in terms of the reading, writing, and computation skills needed to perform them well.
- Return to the work setting to observe how or whether the tasks requiring these basic skills are performed.
- Discuss observations informally with employees and supervisors when problems are observed, to pinpoint specific areas of difficulty and concern.

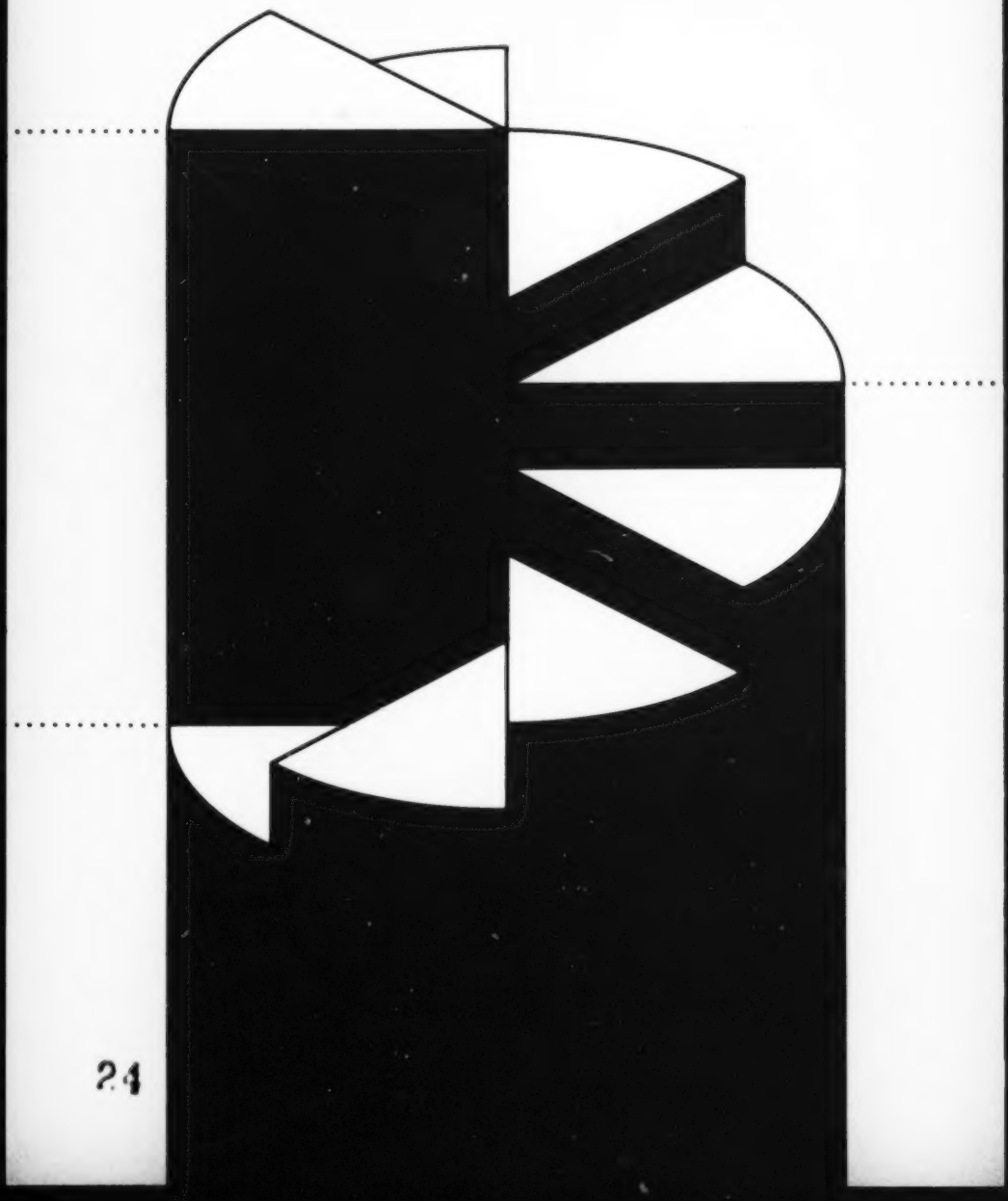
5. Build tests that ask questions relating specifically to the employees' job or job group.

- Use job-related language and style.
- Use situations and formats in which the basic skills being tested will actually occur.
- Ask employees to perform the tasks that simulate what they encounter on the job.

By comparing the results of the test with the writeup of the basic skills tasks embedded in the job(s), the literacy auditor can determine whether there is a basic skills problem in the workplace and what that problem is.

PART III

SOLVING WORKPLACE LITERACY PROBLEMS



PART III.
SOLVING WORKPLACE LITERACY PROBLEMS

"No issue is as critical to the future of America as illiteracy in the workforce. We simply cannot allow this nation to enter the 21st century without a literate, skilled, and flexible workforce. From individual businesses to entire industries, the effect of a workforce unprepared for an information-based, service-oriented economy will be devastating.

The answer lies in working together. No single organization, no one political initiative has the scope to address the issue. What is required is the establishment of partnerships—between industries, public and private sectors, media and educators, religious and civic groups—that will encourage constructive change with lasting impact. The opportunities exist. What remains now is the task of building bridges and developing a national agenda to build a strong, productive workforce for America's future."

James E. Duffy, President of Communications,
ABC Broadcast and Network Divisions,
Capital Cities/ABC, Inc.

Designing the Training Program

Once a company has determined the nature of the basic skills problems in the workforce, management can take one or a combination of the following steps:

- Redesign tasks and rewrite job-related materials so that they demand skills on the level that actually exists among employees.

  PLAN, Inc., a highly effective community-based literacy program in Washington, DC, that develops and runs on-site workplace basic skills programs and works with employer-referred literacy students at their learning center has found that in order to address these problems, employers need to look at how job materials are currently being written, how they might be written differently, and the benefits that would accrue to both the company and the worker from such an action. In other words, unless workplace reading materials become more readable, any company with marginally literate employees will need to commit itself to several years of on-going literacy training to solve the problem.

- Establish training programs for new employees so that they enter their jobs with the necessary workplace literacy skills.

- Design training programs to bridge whatever gaps have been found between employee abilities and job requirements.

Each workplace basic skills program has its own unique form and special character. That character is shaped by the work culture in which it operates, the literacy and training demands faced by the workforce, the value placed on basic skills training in the company, and the internal and external resources available to implement and operate a program.

If there's a model company in the workplace literacy area, one renowned for its dedication to providing the kinds of basic skills training that its workforce requires, it's Polaroid Corporation. This program illustrates many of the key components of an effective workplace literacy program.

More than 20 years ago, Polaroid founder Edwin Land laid out the organization's human resources development philosophy when he said that "the function of industry is not just the making of goods; the function of industry is the development of people." And at Polaroid, that means that the existing workforce is given the skills to keep pace with technological innovation.

That need prompted Polaroid to establish the first in-house basic skills program in the sixties. Today, the fundamental skills program, under the auspices of corporate human resource development, offers a broad range of courses and services: basic literacy and arithmetic; a technology readiness curriculum, which includes math, science, computers, and instrumentation; skills for sustained learning (i.e., problem-solving, study, speaking and listening skills); and individual assessments with educational counselors. Counselors refer employees both to in-house courses and outside community programs.

All participation is voluntary. Roughly 40 percent of the time, supervisors suggest that an employee look into the program, but the most effective recruiters for basic literacy courses are other employees with the same problem.

First, employees are given an assessment developed by Polaroid to determine their precise needs. Individuals reading below the fourth grade level start out in tutorials for four hours each week, usually half on their own time and half on company time. All instruction is closely tied to the individual's job. In fact, instructors "walk through" their students' jobs to see what they are up against each day. Early on, students receive a pocket locator, an alphabetized guide to the 15 or 20 words commonly used on their particular jobs.

The employee and the supervisor jointly determine course content. Each course is customized for the employee's needs. In developing materials instructors draw upon the company newsletter, benefit and compensation information, and any manuals the employee might use on the job. Instructors also stay in close contact with the individual's supervisor, checking in after every 10 hours of tutoring to determine whether there is skill transfer back to the job.

Another service Polaroid offers is a literacy support group, a bimonthly breakfast meeting for people in the basic skills program. An in-house counselor and occasionally other staff members attend. Participants share survival tactics and see other people's problems when they sit down and talk about them. And that often helps employees feel better about themselves.

Setting the Goals

Before setting up an employee basic skills program, it is important to:

- Clarify and define the specific workplace need that will be addressed by raising the basic skill levels of employees.
- Identify the workers in need of basic skills development.
- Specify the projected results for the company and the employees.

This will help ensure that the program is consistent with overall company goals and employee basic skill needs. A recent program at Control Data is a good example of this.

> The Minnesota-based computer services and manufacturing company was concerned about improving the communication skills of employees who were non-native speakers of English. A change in a specific manufacturing process required that the employees be moved from individual workstations to team production groups. Building on a job-related English as a Second Language program—undertaken with Literacy '85, an outside basic skills technical assistance organization—Control Data revised the course content to focus on the very specific communication tasks that workers would need to perform in a team environment. Because they clarified their workplace problem (i.e., the need to increase employees' ability to communicate so that they could work effectively as team members) and specified the desired program results (i.e., increased productivity through the use of teams), the final program design reflected both corporate and employee goals. Also, the program's success could be observed and its contributions to increased profit and productivity could be documented.

To help set the goals for effective workplace basic skills programs, answer the following questions:

- What company goals or performance standards are not now being met?
- Are there projected changes in the business or business environment that will add new goals or modify current performance standards—for example, the purchase of word processing equipment for all secretaries?
- What are the skills needed to perform effectively in particular jobs or job families now and over the next 5 years?
- Do employees or groups of employees lack these minimal skills?
- If a basic skills training program is set up, what results are expected?
- What evidence would indicate that these results had been achieved?

Assessing Available Resources

Training programs require human, financial, and capital resources to operate. The extent and nature of these resources, particularly their availability and flexibility, are key in determining the program design.

Major factors that influence the availability of resources are:

- The support of the chief executive officer or president. If the person in charge believes that basic skills training will directly or indirectly benefit the business and communicates that belief through formal meetings, memos, newsletters, and, most important, support for budget allocations, the company usually will make the necessary resources available.
- The size of the company.
- The extent of the company's basic skills problem.
- The characteristics and location(s) of the employees in need of training.

A good example of an effective program with extensive available resources is the Skills Enhancement Program (SEP) operated by the United Auto Workers (UAW) and the Ford Motor Company. SEP is one of the six national programs under the umbrella of the UAW-Ford Employee Development and Training Program and a key feature of the 1982 collective bargaining agreement. Since its beginning, SEP projects have been established in 35 Ford locations, serving over 5,000 workers.

SEP includes learning and counseling opportunities in six main areas:

- Adult Basic Education.
- General Educational Development (GED).
- High School Completion.
- English as a Second Language (ESL).
- Educational Enrichment Services to sharpen such skills as math, reading comprehension, and science needed for technical training, college courses, or other personal goals.
- Academic Advising Services to assist in identifying and pursuing basic education goals.

To meet the diverse interests and needs of the workers, each SEP project is developed cooperatively by the joint local committee at each location and the local education providers, which range from local school district adult and community education departments to community colleges and 4-year colleges and universities.

Each project is located in a dedicated area in the plant where employees' interests and needs are assessed and individualized instructional plans are developed based on personal goals. Flexibility is built into the program. Participants may attend tutorials or small groups before or after work; they can move at their own pace, and an open entry/open exit structure is designed to accommodate workers' schedules to enter, move through, and complete the course of study selected.

While there are distinct program approaches and services made available to the active worker, there is also an interrelationship among the programs so workers can access other programs. For instance, a worker enrolled in a college course (under the prepaid tuition program) who needs to brush up on math skills can enroll in SEP to sharpen the math skills necessary to complete the college course.

Although participation in the UAW-Ford Skills Enhancement Program is voluntary, workers are encouraged to investigate the offerings, which are publicized in the plants through education fairs. Another invaluable resource is the Life/Education Adviser, a career counselor hired through the University of Michigan who is on-site in every major Ford location for 40 hours per week. The Life/Education Adviser, working in conjunction with the joint local committee, provides referral and on-going support to workers in defining and implementing their personal and career goals.

Smaller companies may not have the resources to provide the array of in-house services offered by Ford. They can, however, identify and work in partnership with organizations that have tailored their services to meet the basic skills training needs of businesses. Here are some examples of these organizations:

> The GRASP Adult Learning Center in Illinois, funded by state and local funds, works under contract with small businesses in the Chicago area to provide literacy and ESL instruction to some 400 students a year at its main location and at a variety of community and business settings. The curriculum is customized to each particular job setting, the charge to the business per employee is minimal, and each educational contract is for a minimum of 40 hours, featuring flexible scheduling, individual tutoring, and small group classes on site.

> The Massachusetts Workplace Education Initiative funds several model workplace literacy projects involving partnerships among unions, employers, education providers and state administrative entities. For example:
>
> AT&T Technologies in North Andover provides ESL instruction for assembly and production workers who are locked into their present jobs because of language and basic literacy barriers. The program represents a partnership between the city of Lawrence Department of Manpower Development, the Adult Learning Center of Lawrence Public Schools, AT&T management, and Locals 1365 and 1366 of the Communications Workers of America. AT&T provides release time to participating workers.
>
> Zayre's Distribution Center in Worcester, an 800 employee facility, and the International Ladies' Garment Workers Union are jointly developing an ESL program to help warehouse workers acquire English language proficiency. The company will provide release time and classroom space. Educational services will be provided through Quinsigamond Community College adult education program.

To determine the opportunities and constraints that will shape the program design, take a realistic look at the resources that will be available and committed to the program in-house. If they don't appear adequate, look at outside resources for additional support.

Recruiting the Trainees

"The disabled adult reader, much to the disappointment of others, does not come forth easily to admit to a problem that she/he has been hiding for years. This is especially true of very low level readers, oldtimers, and employees who through the years have worked their way up the organizational ladder."

PLAN, Inc.

Adults are often worried that stepping forward and admitting basic skills deficiencies will result in the loss of their jobs. They are also often deeply embarrassed by these deficiencies. Effective recruitment activities are carried out with sensitivity to these feelings. Whether a program is voluntary or compulsory, the following strategies would apply:

- Package and present the program as part of the regular training agenda. Don't call it a literacy or even a basic skills program. Name it something neutral or positive such as the Honeywell Corporation's Language Working Program or Ford's Skills Enhancement Program.
- Include supervisors in the planning process so that they can help assure workers that their jobs are not in jeopardy.
- Include workers in the planning process so that they can add their perspective.
- Encourage "sales" presentations of the program to employees by people they trust such as other employees or the union, if one exists.
- Make the goals of the program very clear and tie them, whenever possible, to incentives for participation such as learning how to use new and exciting technology, prospective job openings, or meeting personal goals.
- Locate programs at an attractive, comfortable, and permanent site that doesn't look like a school classroom for children. It is also good for classes to be held on the workplace premises rather than someplace apart from other activities.
- If possible, schedule training wholly or partially on company time. This underlines the company's commitment to the program and makes it easier for students to attend. If this is not possible, then schedule classes with flexibility so that conflicting outside responsibilities don't force trainees to drop out.

Working With Partners

The assessment of available in-house resources will indicate whether the most effective and cost-efficient program can be operated without outside assistance. It may be necessary to select a consultant or an educational service provider to run the program under contract to the company, or to refer employees to publicly available or union-offered programs. *Most companies do not have the in-house resources or available expertise to develop and run their own basic skills programs.* And outside help is available to assist in staffing, developing a tailored curriculum to meet specific employee and employer needs, and evaluating the program's effectiveness.

In most localities throughout the country, there are educational service organizations that have the expertise to assist businesses in providing basic skills programs to their workforce.

Generally, they include:

- **The local school district**—The school district may administer an extensive adult basic education program. The employee training program at Planters Peanuts in Charlotte, NC, is a good example. The program is offered on a voluntary basis. People sign up for whatever they want—reading, writing, math—from the 0-grade level through GED preparation.

  Individual instruction is structured around what employees need to know for their jobs and what they want to know to function outside of the workplace.

  Trainees attend instruction on their own time, before and after work, with a teacher from the local school system who works closely with the individual's supervisor. Workers may need to know the words on a machine, so the teacher will develop a learning packet to teach that vocabulary.

  At Planters, a cooperative consisting of the company, the union, the state adult education department and the local school system has offered the basic education program for 9 years.

  Classes are run Monday to Thursday from 1:00 to 6:00 p.m. to accommodate workers on three different shifts. They attend classes on their own time, a minimum of four hours a week, and are compensated by the employer for two hours of their time.

• **State Education Agency**—Most state departments of education have a Division of Adult Education which administers the state's Adult Basic Education Program. Because of their statewide perspective on available resources, the directors of these divisions are often an excellent source of technical assistance or interagency coordination. For example:

General Motors' plants nationwide are automating as quickly as resources allow. The effects of this automation are a reduction in the number of manufacturing personnel and a need to upgrade the communication and computational skills of those who remain. The company and the United Auto Workers Union have entered into an agreement whereby workers scheduled to be laid off are given educational and counseling assistance, and those selected to remain are provided the education required to allow them to function in the new automated environment.

Company and union representatives, working with the New York State Education Department's Regional Center for Economic Development in Rochester, have inaugurated one of the first programs in the country to serve these two populations. The Rochester Products Plant analyzed their workforce and identified 800 persons (some to be trained and some to be released) who did not have high school diplomas. The company agreed to allow this group of 800 people to attend classes for up to 24 weeks, full-time and at full pay, to earn a high school diploma or a high school equivalency diploma or at the very least to upgrade basic skills. Some workers required instruction in English as a second language.

The program is being operated by a consortium of four agencies. The lead agency is Rochester School District, assisted by Greece School District and Monroe Board of Cooperative Educational Services #1 and #2. Rochester School District operates an evening high school and can therefore award units of credit to those employees who earned sufficient credits in their earlier high school days to make high school completion a practical objective.

• **Private Industry Councils (PICS) and Job Training Partnership Act (JTPA) service providers**—PICs are actively involved in job training and remedial education, particularly for youth, in many states and localities. JTPA funds have been used to develop cooperative-related basic skills programs to serve local employers. For example:

The Paterson Adult Learning Center (PALC) and the Private Industry Council of Passaic County have developed a system to assist PIC participants in Paterson who need to upgrade basic skills, prepare for the GED exam, make career decisions, enter occupational skills training or obtain a job. This transitional basic skills program has two components, one tailored to the needs of adults and the other tailored to the needs of youth dropouts. The center is also the host of job fairs for JTPA recruitment and provides space for PIC on-the-job-training account executives to meet their clients.

• **Colleges and universities**—Many colleges and universities may have education departments and continuing education divisions that can provide businesses with assistance in developing their own program. For example:

Twenty-five employees, primarily of Hispanic, Vietnamese, and Filipino descent, at Honeywell's Large Computer Products Division in Phoenix, AZ, participated in an 18-week federally funded model project, "English Language Training for the Workplace." The project was designed by Arizona State University's Higher and Adult Education Department to reflect the belief that in industry today, basic communications skills are essential. To design this language training for Honeywell, needs were assessed via extensive interviews with managers and workers. The interviews revealed that most limited-English speaking employees had difficulty reporting problems, participating in meetings, and informing their leaders when they didn't understand oral or written instruction. Cultural differences surfaced as several employees were afraid they would insult their managers by asking questions. Limited-English speaking employees also lacked the confidence to interact with their co-workers, at a time when teamwork has become an essential part of Honeywell's strategy with the recent implementation of "Quality Improvement Teams."

After six months of primary research, a five-module curriculum was prepared. In the training module employees learned how to ask questions to better understand training material, how to read plans, and participated in formal and informal training activities between co-workers. The on-the-job problem-solving section focused on daily job interactions, teaching such basics as how to borrow a tool, report a problem, or carry on a job-related conversation. The social language module, "Breaks", taught participants how to converse informally and interact with co-workers during work breaks. Attending and getting involved in meetings were addressed in a fourth module. Giving presentations, asking questions, and supporting opinions were stressed. Job advancement, covered in the fifth module, exercised the participants' new communications skills and confidence through simulated job interviews and application processes. Program instructors used communicative methods such as role-play and videotaped simulation as well as structured oral and written grammar activities.

• **Community colleges and other postsecondary education institutions**—Community colleges can be very innovative and employer-responsive institutions to collaborate with in the provision of adult basic education services. For example:

Project ABLE (Adult Basic Literacy Education) at the Central Piedmont Community College in Charlotte, NC, was launched with private donations—primarily from foundations and now operates on state adult education funds. Several area businesses support Project ABLE not only by sending their employees there to improve their skills but also by donating the funds to replicate the center in five other locations.

The ABLE Center has harnessed the computer to help illiterate adults progress from the 0-grade level through high school. Those who begin at the third grade level or below work with a volunteer twice each week and follow each tutorial with a session on microcomputers. Those who start out at a higher level take reading and math instruction on a terminal that runs basic skills courseware.

All of the students use computers from their first day. Instructors say that their rate of learning is increased by using computers.

• **Community-based and other non-profit literacy groups**—A number of community-based programs such as PLAN (cited earlier in this booklet) operate successfully in the workplace setting. The Association for Community-Based Education (ACBE) in Washington, DC, is a resource for the names and locations of these groups. Laubach Literacy Action and Literacy Volunteers of America are the two largest voluntary literacy tutoring organizations operating in the United States. Both have state and local affiliate operations around the country. These affiliates recruit, train, and support volunteer literacy tutors who tutor in a variety of settings, including the workplace. Local affiliates are also called on by business to help set up on-site programs.

• **For profit organizations and consultants**—Organizations and individual consultants can provide expertise in designing, setting up, and running workplace basic skills programs. The Business Council for Effective Literacy in New York is a good source for this type of information. The worksite literacy class run by Literacy Action at Georgia Power is a successful example of this type of partnership.

For 23 weeks, a group of employees of Georgia Power attended a special reading class designed to help them function more capably both on and off the job. Participation in the class was entirely voluntary, and the twice a week, hour and a half session was taught on the employees' time. The branch skills training coordinator and the senior methods and training specialist coordinated arrangements at the plant and encouraged employees who might benefit to enroll.

The course began with the basics—the first lesson included a review of the alphabet. But by graduation time, many students were reading from the power generator procedures manual and writing page-long stories about growing up in rural Georgia. The class emphasized how to learn as much as it stressed learning, making the information relevant to the student. The students had a wealth of work experience to draw on, but sometimes the way in which they had categorized it in their minds made the information less useful to them. Usually a work order will reference another procedure, but if the poor reader doesn't associate the two, he or she makes no connection.

Logic, subtle distinctions, and organization skills were taught so that the students could cross-reference procedures and communicate more effectively on the job.

- **Libraries**—Libraries also work jointly with businesses and other educational providers to offer literacy services at worksites or, more often, in a library. In "Bluffing It," the ABC television movie referred to earlier, Dennis Weaver, who plays an adult who had been too ashamed to admit the fact of his illiteracy, feels comfortable going to the library for tutoring because the library is an "adult" place to be.

Finally, in exploring the options for basic skills partnerships, it is important to assess the suitability and "fit" of particular providers with the educational needs, work culture, and targeted employee groups. Some good basic skills providers may have limited experience in offering job-related programs and in operating in workplace settings. Adaptability, flexibility, and "quick study" skills will be required on both sides to ensure the success of a partnership.

The following questions can serve as a guide to choosing the appropriate partner:

- What prior experience does the provider have in designing and running job-related basic skills programs?
- In past job-related basic skills programs, how was success documented? If there's no prior workplace experience, how was success documented in other basic skills programs?
- Does the service provider specialize in developing programs for particular population groups—for example, limited-English speaking adults or displaced workers? Is there evidence that the provider is prepared to deal with the targeted population?
- Does the provider demonstrate an understanding of the company's goals and objectives and how he/she will work with the company to ensure that the program "stays on course" in achieving these objectives?
- What are the components of the total proposed program and what will each component cost? In the case of publicly funded organizations, what part of the costs will they cover?
- What specifically will the provider do to assess the current skills and training needs of employees?

- What will be done to evaluate the effectiveness of the program?
- What specifically does the provider see as his/her responsibilities? The company's responsibilities?
- What human resources will be required from the company?
- What will be the criteria for selecting the instructor(s) for the program? How will those instructors be supervised?
- How flexible will the provider be? Can additional hours be provided if that becomes necessary?
- Does the timeframe for training and achieving the desired results appear realistic?
- Does the provider believe that employees will be able to demonstrate the benefits of the program—for example, by performing more effectively on the job, reducing their absenteeism, getting promoted, etc.?

Building the Curriculum

"Research indicates that superior job performers differ from their less able counterparts in their ability to think through what is needed on the job and then to apply reading and writing abilities to complete those job tasks efficiently."

(Mikulecky, 1987)

A good curriculum for developing workplace literacy skills should be designed to include the tasks and materials that fit the specific job contexts of the workers. Skills taught in traditional or generic basic skills classes appear to have very little direct transfer to the performance of job-specific basic skills tasks.

In many schools and basic skills courses, students are taught reading skills separately from writing skills, and reading and writing separately from computational, oral communication, or any other set of skills. When these students become employees, they need to integrate and apply skills to accomplish tasks, solve problems, and make decisions about which materials they need for both of these activities. A good workplace literacy curriculum:

- Is organized by job tasks, not by discrete basic skills.
- Includes problems and simulated situations that call for the use of basic skills as they will be used on the job.
- Provides opportunities to link basic skills and thinking together.
- Builds on the employees' knowledge of the job content.
- Uses actual job materials as instructional texts.
- Gives employees the opportunity to work together and learn from each other.
- Is linked to the goals of the company and participating employees.

The role of general literacy instruction

Many experienced literacy practitioners, as well as employers who have provided basic skills instruction to their workforces, have found that a combination of job-related skills training and some general literacy instruction works well. Motivation remains high when personal, real-life literacy needs of the employees are addressed along with job skills requirements. This premise is key to a number of successful workplace literacy programs such as the UAW/Ford Skills Enhancement Program.

The curriculum for general literacy instruction is usually derived from student requests. Discussions with students in the workplace programs reveal a wide range of interests, including:

- High school equivalency (GED) and other credential-directed activities.
- Current events.
- Reading and writing autobiographies, fiction, and poetry.
- Understanding personal credit agreements.
- Reading good literature.
- Helping children with homework.

Results of general literacy classes include improved self-confidence, increased loyalty to the company, and more enthusiasm for coming to work. Many practitioners who take this approach also believe that increased productivity is another outcome.

Evaluating the Program

A successful workplace literacy program will produce observable results for participating employees and yield management information for staff, thus enabling programs both to measure and document their effectiveness. This evaluation, however, is not easy because:

- There are no common criteria for evaluating the performance of adult education programs in general. Improvements in reading based on the administration of a standardized reading test seem to have very little impact on job performance.
- Very little research exists about the relationship of literacy to job performance. Much of what exists is sketchy and based on information obtained from studies conducted in the military.
- Program staff often don't have the time or the training to conduct the kinds of evaluations that can solidly document results.

Nevertheless, good evaluation is important to letting both the company and the employee see that learning goals are being met. It is also key to identifying and correcting problems in the various components of the program design. Finally, without documented results, new or additional budget allocations become less likely.

To measure results of the workplace literacy program, staff should:

- Construct and administer job-specific pre- and post-tests based on the results of a literacy audit or similar job task examination technique. Tests should include simulations of actual job tasks. If possible, give periodic assessments of this type throughout the course of the program.
- Talk to the employees and their supervisors to find out what they believe to be the on-going and final results of the training.
- Look for signs of changes in the employees' self-confidence in class and on the job. Note positive changes in work habits such as improved attendance, punctuality, and teamwork skills.
- Supervisors should monitor classes to make sure that instruction is on track with the learning goals of the employees and the overall goals of the company.

This chart provides information for four different types of evaluation.

WORKPLACE LITERACY PROGRAM EVALUATION

Type/Level	Purpose	Strengths
Student Reaction	Measure student feelings about a program/course	• Easy to administer • Provides immediate feedback on instructors, facilities, and program design
Student Learning	Measure the amount of learning that has occurred in a program/course	• Provides objective data on the effectiveness of training • Data can be collected before students leave the training program
Student Performance	Measure the transfer of training	• Provides objective data on impact to job situation
Organization Results	Measure impact of training on organization	• Provides objective data for cost/benefit analysis and organizational support

Weaknesses	Examples	Guidelines for Development
• Subjective • Provides no measurement of learning, transfer of skills or benefit to the organization	• "Happiness" reports • Informal student/instructor interview • Group discussion	• Design a form which can be easily tabulated • Ask questions which provide information about what you need to know: instructor effectiveness, facility quality, relevance of program content, etc. • Allow for anonymity and opportunity to provide additional comments
• Requires skill in test construction • Provides no measurement of transfer of skills or benefit to the organization	• Written pre/post tests • Skills laboratories • Role plays • Simulations • Projects or presentations • Oral examinations	• Design an instrument which will provide quantitative data • Include pre and post level of skill/knowledge in design • Tie evaluation items directly to program learning objectives
• Requires task analysis skills to construct and is time consuming to administer • Can be a "politically" sensitive issue	• Performance checklists • Performance appraisals • Critical incident analysis • Self-appraisal • Observation	• Base measurement instrument on systematic task analysis of job • Consider the use of a variety of persons to conduct the evaluation • Inform participants of evaluation process
• Requires high level of evaluation design skills; requires collection of data over a period of time • Requires knowledge of organization needs and goals	• Employee suggestions • Manufacturing indexes —Cost —Scrap —Schedule compliance —Quality —Equipment donations • QWL surveys • Union grievances • Absenteeism rates • Accident rates • Customer complaints	• Involve all necessary levels of organization • Gain commitment to allow access to organization indexes and records • Use organization business plans and mission statements to identify organizational needs

The Bottom Line

"Business and industry are going to have to pick up a greater portion of education. It would probably cost between $5 billion and $10 billion over the next few years to establish literacy programs and retool current ones. But the returns of that are going to be tenfold."

Thomas G. Sticht, literacy expert,
USA Today, October 29, 1987

Successful workplace basic skills programs incorporate the following characteristics in their program design. Look at your program to see which of them are included.

- Both the goals and the projected results for the company and for participating employees are clearly stated.
- The program has the active support of top-level management.
- Employers use recruiting techniques that are appropriate to the employees they wish to reach.
- The planning and on-going operation of the program involves management, human resource development personnel (if applicable), supervisors and workers.
- Explicit standards are used for measuring program success. This information is shared with participating employees and determined with the help of their supervisors.
- Pre-tests that simulate job situations and tasks are used to diagnose employee needs and strengths and to guide the development of learning plans for participating employees.
- Employees' personal goals are solicited and incorporated into learning plans.
- Instructional methods, materials, and evaluation strategies are tied directly to learning goals.
- Instructors know the basic skills needed to perform job tasks in the specific division or department for which personnel will be trained.
- Employees and supervisors get frequent feedback on their progress and that progress is carefully documented.
- Evaluation data are used to improve program effectiveness. Post-tests that simulate job situations and tasks are used to measure learning.

PART IV

RESOURCES

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References and Suggested Reading

Applebee, Arthur, Langer, Judith, and Mullis, Ina. *Learning to Be Literate in America.* Princeton, NJ: Educational Testing Service, 1986.

Brizius, Jack and Foster, Susan. *Enhancing Adult Literacy: A Policy Guide.* The Council of State Policy & Planning Agencies, 1987.

Business Council for Effective Literacy. "Developing An Employee Volunteer Literacy Program" (BCEL Bulletin, September 1986).

_____. *JOB-RELATED BASIC SKILLS: A Guide For Planners of Employee Programs.* Business Council for Effective Literacy, Bulletin No. 2.

_____. *Newsletters.*

Butler, Erik Payne, Hahn, Andrew, and Darr, James. *The Literacy-Employment Equation: Education for Tomorrow's Jobs.* San Francisco, CA: Far West Laboratory for Educational Research and Development, 1985.

Chute, Adrienne. "Meeting the Literacy Challenge." Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement, Library Programs, March 1987.

Corporate Roles in Public Education Project. *Basic Skills in the U.S. Work Force.* Center for Public Resources, 1983.

Diehl, W. and Mikulecky, L. "The Nature of Reading at Work." *Journal of Reading,* 24, 221-227, 1980.

Duggan, Paula. *Literacy at Work: Developing Adult Basic Skills for Employment.* Washington, DC: Northeast-Midwest Institute, Center for Regional Policy, 1985.

Fields, Ernest L., Hull, William L., and Sechler, Judith A. *Adult Literacy: Industry-Based Training Programs.* Columbus, OH: National Center for Research in Vocational Education, 1987.

From the Classroom to the Workplace: Teaching ESL to Adults. Washington, DC: Center for Applied Linguistics, 1983.

Harman, David. *Illiteracy: A National Dilemma.* New York: Cambridge Book Company, 1987.

_____. "Learning in the Workplace," *World Education Reports,* 26, 3, 10-11, Spring 1987.

_____. *Turning Literacy Around: An Agenda for National Action.* New York: Business Council for Effective Literacy, 1985.

Hirsch, E.D., Jr. *Cultural Literacy: What Every American Needs to Know.* Boston: Houghton Mifflin, 1987.

Hull, William L. and Sechler, Judith A. *Adult Literacy: Skills for The American Work Force*. Columbus, OH: National Center for Research in Vocational Education, 1987.

Hull, William, Fields, Ernest, and Sechler, Judith A. *Industrial Literacy Programs: Final Project Report*. Columbus, OH: National Center for Research in Vocational Education, 1986.

Hunter, Carman St. John and Harman, David. *Adult Illiteracy in the United States: A Report to the Ford Foundation*. New York: McGraw Hill, 1979, 1986.

Kirsch, Irwin S. and Jungelblut, Ann. *Literacy: Profiles of America's Young Adults*. Princeton, NJ: Educational Testing Service, National Assessment of Educational Progress, 1986.

Lerche, Rene, ed. *Effective Adult Literacy Programs: A Practitioners Guide*. New York: Cambridge Book Company, 1985.

Mikulecky, L. "Functional Writing in the Workplace", I. Gentry (ed.), *Research and Instruction in Practical Writing*. Los Alamitos, CA: Southwest Regional Laboratory for Educational Research and Development, 1980.

Mikulecky, L. and Diehl, W. *Job Literacy: Reading Research Center Technical Report*. Bloomington, IN: Indiana University, 1980.

Mikulecky, L. and Ehlinger, J. "The Influence of Metacognitive Aspects of Literacy on Job Performance of Electronics Technicians," *Journal of Reading Behavior*, 18, 1, 41–62.

Training for Job Literacy Demands: What Research Applies to Practice. Bloomington, IN: Indiana University, 1987.

Orasanu, Judith, ed. *Reading Comprehension: From Research to Practice*. Hillsdale, NJ: Lawrence Erlbaum Associates, 1986.

Skagen, Anne, ed. *Workplace Literacy*. New York: American Management Association, 1986.

Stedman, James B. *Education in America: Reports on its Condition, Recommendations for Change*. Washington, DC: Congressional Research Service, Education and Public Welfare Division, October 1986.

Sticht, Thomas G. *Functional Context Education: Workshop Resource Notebook*. San Diego, CA: Applied Behavioral and Cognitive Sciences, Inc., 1987.

_____. *Talking with Business*. Washington, DC: U.S. Department of Education, 1985.

Venezky, Richard L., Kaestle, Carl F., and Sum, Andrew M. *The Subtle Danger: Reflections on the Literacy Abilities of America's Young Adults*. Princeton, NJ: Center for the Assessment of Educational Progress, Educational Testing Service, 1987.

What Works: Research About Teaching and Learning. Washington, DC: U.S. Department of Education, 1985.

WORKFORCE 2000: Work and Workers for the 21st Century. Indianapolis, IN: Hudson Institute, 1987.

Additional Sources of Information

AFL-CIO
Education Department
815 16th Street, NW
Washington, DC 20006

Unions have an historical commitment to education. Many are involved in providing adult basic skills programs, including literacy programs. Unions and other labor organizations provide assistance and instruction in reading, mathematics, and other basic skills necessary for employment and skill upgrading.

American Association of Adult and Continuing Education (AAACE)
1201 16th Street, NW
Suite 230
Washington, DC 20036

This professional organization with 70 units represents more than 3,000 adult education practitioners. It also publishes newsletters, sponsors a national conference and leadership seminar, and provides technical assistance. Contact the national office to identify state affiliate presidents.

American Association of Community and Junior Colleges (AACJC)
One Dupont Circle
Suite 410
Washington, DC 20036

AACJC, in conjunction with several other groups, set up *The American Seminar-A National Teleconference: Literacy, Your Community and its Workforce*, which was beamed to an estimated 1,000 communities. AACJC aims to have every participant develop a local literacy education action plan and hopes to double the number of people taking and passing the GED exam in order to achieve the ultimate goal of eradicating illiteracy by the year 2000.

American Council of Life Insurance (ACLI)
1001 Pennsylvania Avenue, NW
Suite 500
Washington, DC 20004-2599

This trade association represents more than 600 life insurance companies. Its members are involved in literacy as a community service and in improvement of basic skills for employees.

American Newspaper Publishers Association (ANPA)
P.O. Box 17407
Dulles International Airport
Washington, DC 20041

ANPA's membership includes 1,400 publishers. The association's three-year commitment to literacy, called Press to Read, includes slide shows, guidelines for developing literacy projects, features and reproducible art, including cartoons. ANPA publishes a newsletter, *Focus on Literacy*.

American Society for Training and Development (ASTD)
1630 Duke Street
Box 1443
Alexandria, VA 22313

ASTD represents more than 50,000 training and human resource development professionals found primarily in Fortune 1,000 companies throughout the United States. A major focus of its two-year project, titled "Best Practices: What Works in Training and Development," is the provision of basic skills in the workplace.

American Vocational Association (AVA)
1410 King Street
Alexandria, VA 22314

Membership of the AVA includes 45,000 teachers, administrators, industry representatives, and policy makers whose major concerns are teaching basic skills and job skills in order to produce a trained work force. The association publishes a newsletter, *Update*, and the *Vocational Education Journal*.

Assault on Illiteracy Program (AOIP)
410 Central Park West, PH-C
New York, NY 10025

AOIP is an all-volunteer, "community-building" coalition of approximately 90 national organizations led by blacks. Its focus is on complementing and supplementing the role of teachers and tutors in overcoming illiteracy. To get information about participating organizations in your area, contact the national office.

Association for Community-Based Education (ACBE)
1806 Vernon Street, NW
Washington, DC 20009

This national organization of independent community-based educational institutions seeks to promote alternative adult education programs that involve a community development process and advance individual development. Through technical assistance to its members and its advocacy efforts, ACBE works to strengthen community-owned programs and increase awareness of this vital force in American education. In addition to adult literacy programs, ACBE members offer a wide range of educational programs.

Business Council for Effective Literacy (BCEL)
1221 Avenue of the Americas
35th Floor
New York, NY 10020

BCEL, a small national foundation, is dedicated to fostering business awareness of and involvement in programs to deal with adult literacy. The council publishes a comprehensive quarterly newsletter which lists technical assistance booklets and provides information on corporate literacy programs. Their bulletin, *Job Related Basic Skills: A Guide for Planners of Employee Programs*, provides useful step-by-step guidance.

Council of State Policy and Planning Agencies (CSPA)
400 North Capitol Street, NW.
Suite 291
Washington, DC 20001

CSPA, an affiliate of the National Governors' Association, provides policy guidance through its research analysis and technical assistance to Governors and their top advisers. A policy academy entitled "Literacy for Jobs and Productivity" was conducted involving 10 states. These states, over an 18-month period, developed policies and strategies to enhance adult literacy. A published guide, *Enhancing Adult Literacy*, describes state options for effective adult literacy policies.

Institute for the Study of Adult Illiteracy
Pennsylvania State University
248 Calder Way, Room 307
University Park, PA 16801

The institute's activities are guided by three goals: research and development, improvement of practice, and advocacy for adult literacy. The institute is a frontrunner in using technology for literacy training. Its Adult Literacy and Technology Project is aimed at educators in the field who use technology and training technology consultants on a regional basis.

International Reading Association (IRA)
444 North Capitol Street, NW.
Suite 321
Washington, DC 20001

IRA has 1,200 affiliate councils. Its goals are to improve reading, reading education, and literacy. IRA sponsors the U.S. celebration of International Literacy Day each year on September 8, holds national and regional meetings, publishes a journal and a 1987 text on Occupational Literacy.

Laubach Literacy Action (LLA)
1320 Jamesville Avenue
P.O. Box 131
Syracuse, NY 13210

The largest network of private adult literacy programs providing instruction through trained volunteers, Laubach has 600 councils in 45 states.

Literacy Volunteers of America, Inc. (LVA)
5795 Widewaters Parkway
Syracuse, NY 13214

LVA has 233 affiliates in 31 states working to teach adults to read and to train individuals and organizations as tutors.

National Advisory Council of Adult Education (NACAE)
2000 L Street, NW.
Suite 570
Washington, DC 20036

NACAE, established by Congress in 1970, advises the President, Congress, and the Secretary of Education in the preparation of general regulations and with respect to policy matters arising in the administration of the Adult Education Act. The Council's 15 members, who are presidential appointees, serve three-year staggered terms.

National Alliance of Business (NAB)
1015 15th Street, NW.
Suite 500
Washington, DC 20005

NAB acts as a link between the business community and the public sector to increase employment opportunities for the economically disadvantaged. NAB's booklet *Employment Policy Looking to the Year 2000* discusses illiteracy in the workplace and issues involved in preparing the work force for the next century.

National Assessment of Educational Progress (NAEP)
Educational Testing Service
Rosedale Road
Princeton, NJ 08541

For about two decades, NAEP has regularly collected and reported information about the knowledge, skills, and attitudes of the nation's 9-, 13- and 17-year-olds in a variety of subject areas. NAEP is a congressionally mandated project funded by the U.S. Department of Education and administered by the Educational Testing Service. NAEP's 1986 publication *Literacy: Profiles of America's Young Adults* addresses the question: Is illiteracy a major problem among young adults in the United States?

National Commission for Employment Policy (NCEP)
1522 K Street, NW.
Suite 300
Washington, DC 20005

NCEP is an independent federal agency that examines issues of development, coordination, and administration of training and employment programs. It identifies the country's employment goals and needs and provides an essential information and research service to assist the segment of the labor force burdened with employment hardships. NCEP makes recommendations to the President and Congress.

National Council of State Directors of Adult Education
Division of Adult Education
New York State Department of Education
Washington Avenue
Albany, NY 12234

The council is a unit of the American Association for Adult and Continuing Education. Its purpose is to attend to legislative needs and concerns, work with other adult education organizations, exchange ideas and solve common problems, and establish and maintain a nationwide communication network. Each state director of adult education is a member of the council.

National Governors' Association (NGA)
444 North Capitol Street, NW.
Suite 250
Washington, DC 20001

NGA represents Governors of 55 states and territories. Its mission is to influence the development and implementation of national policy and to apply creative leadership to state problems. The association distributes a publication entitled *Making America Work: Bringing Down the Barriers*. Six gubernatorial task forces were formed to address issues concerning barriers to jobs, growth, and competitiveness. Governor Ashcroft of Missouri chaired the task force on adult literacy. This task force has offered a comprehensive blueprint for prevention and intervention and developed recommendations for state action.

Project Literacy U.S. (PLUS)
Box 2
4802 Fifth Avenue
Pittsburgh, PA 15213

PLUS is a major national media/outreach project on the subject of adult illiteracy in the United States, a joint public service campaign of the American Broadcasting Companies, Inc., and the Public Broadcasting Service. Contact the national outreach office to learn about local task force support organizations in your area.

Push Literacy Action Now (PLAN), Inc.
1332 G Street, SE
Washington, DC 20003

PLAN is a private nonprofit voluntary adult literacy program in the District of Columbia. PLAN offers job-site literacy training and special literacy training for parents. It publishes a national literacy newsletter, *The Ladder*.

SER-JOBS for Progress, Inc.
1355 River Bend Drive
Suite 350
Dallas, TX 75247

This is a national nonprofit human resource development organization that focuses on Hispanic needs. A five-year strategic plan includes a literacy initiative to operate within Family Learning Centers in affiliates in 77 U.S. cities. The infrastructure will provide computerized learning environments, literacy councils, and an intergenerational childcare component.

U.S. Conference of Mayors
1620 Eye Street, NW
Washington, DC 20006

The U.S. Conference of Mayors, an association representing the interests of cities with 30,000 or more residents, established its Task Force on Literacy in 1985. This on-going task force, chaired by W. Wilson Goode of Philadelphia, published *Adult Literacy: A Policy Statement and Resource Guide for Cities* in June 1986 and is continuing to keep mayors informed of literacy initiatives throughout the country. Contact your mayor's office for more information.

United Way of America
701 North Fairfax Street
Alexandria, VA 22314

Local United Way chapters serve as catalysts to help communities provide critical human and health care needs by funding a network of local charitable groups. The organization assesses problems and helps shape community programs to address them. Programs available vary by community. Many local United Way chapters provide funding to agencies dealing with illiteracy among adults as well as children.

U.S. Department of Education
Adult Literacy Initiative (ALI)
Reporter's Building, Room 510
400 Maryland Avenue, SW.
Washington, DC 20202

This office has focused increased awareness of illiteracy among adults since its creation in 1983. It continues to promote coordination of public and private sector activities and resources and to disseminate information. ALI publishes a newsletter, *THE UPDATE*, in partnership with the federal Division of Adult Education.

U.S. Department of Education
Division of Adult Education
Reporter's Building, Room 522
400 Maryland Avenue, SW.
Washington, DC 20202

This office has overall responsibility for providing a broad range of services for the education of adults throughout the country and for promoting the development of adult education resources nationally. The Division of Adult Education administers the federally funded, state-administered Adult Education Act (AEA), Public Law 91-230 as amended. AEA is currently the major federal program that provides basic education and literacy skills. The program serves adults aged 16 and over or who are beyond the age of compulsory school attendance under state law and lack sufficient educational skills to function effectively in society.

U.S. Department of Labor
Employment and Training Administration
200 Constitution Avenue, NW.
Washington, DC 20210

The Employment and Training Administration (ETA) has responsibility for administering a broad range of training and employment programs to assist workers to prepare for and find employment. Many of these programs are targeted on the disadvantaged, particularly youth, and hence place major emphasis on providing basic and remedial education. Most of the training programs are authorized under the Job Training Partnership Act and include block grants for states and locally directed training programs for unemployed adults and dislocated workers as well as special programs for youth such as the Job Corps. A major focus of the Job Corps is on providing intensive remedial education as part of a comprehensive residential program for severely disturbed youths. In addition, ETA conducts an extensive research and demonstration program with major emphasis on literacy for the workplace.

Acknowledgments

The work and expertise of a number of individuals have made this publication possible. Karl Haigler and Benita Somerfield, of the U.S. Department of Education were responsible for the development of the material in the booklet and shared responsibility for project oversight with Gerri Fiala of the U.S. Department of Labor. David Harman of the Institute for Corporate Education and Renee Lerche of General Motors Corporation ably performed the function of principal investigators.

We would also like to thank Roberts T. Jones, Patricia W. McNeil, and Lloyd Feldman of the U.S. Department of Labor for their direction and support.

We would like to express appreciation to our outside reviewers whose critiques of early manuscript drafts provided needed guidance: Nancy Bross of the Georgia Department of Labor; Mary Carter of General Motors Corporation; Brian Elrod of the UAW/Ford Skills Enhancement Program; Jane Evanson of Alaska Pacific University; Sandy Foster of Chicago Citywide College; Mike Fox of PLAN, Inc.; Gerry Kilbert of the California State Department of Education; Larry Mikulecky of the University of Indiana; Garrett Murphy of the New York State Department of Education; Verne Pulling of Literacy Action; Gail Spangenberg of the Business Council for Effective Literacy; Sondra Stein of the Massachusetts Commonwealth Literacy Campaign; Mary Tenopyr of AT&T; Dale Yeatts of the American Society for Training and Development; and William Ziegler of the AETNA Training Institute.

Finally, we would like to thank Doris Gunderson, Jorie Mark, Sara Pendleton, Frances Littlejohn, and Deitra Ware of the Division of Adult Education for their assistance in the development of the manuscript; Wilma P. Greene for help with production; and the many fine practitioners whose work is the basis for the content of this book.

Ordering Information

To obtain additional copies of this book, please write:

Office of Public Information
Employment and Training Administration
U.S. Department of Labor
200 Constitution Avenue, NW
Room 52307
Washington, DC 20210

Design by:

Janice Ford
Typography and Design
U.S. Government Printing Office